Postel

Network Working Group
Request For Comments: 1078

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November 1988

TCP Port Service Multiplexer (TCPMUX)

Status of this Memo

This RFC proposes an Internet standard which can be used by future TCP services instead of using 'well-known ports'. Distribution of this memo is unlimited.

Overview

Ports are used in the TCP to name the ends of logical connections which carry long term conversations. For the purpose of providing services to unknown callers, a service contact port is defined. The contact port is sometimes called the "well-known port". Standard TCP services are assigned unique well-known port numbers in the range of 0-255. These ports are of limited number and are typically only assigned to official Internet protocols.

This RFC defines a protocol to contact multiple services on a single well-known TCP port using a service name instead of a well-known number. In addition, private protocols can make use of the service without needing an official TCP port assignment.

The Protocol

A TCP client connects to a foreign host on TCP port 1. It sends the service name followed by a carriage-return line-feed <CRLF>. The service name is never case sensitive. The server replies with a single character indicating positive ("+") or negative ("-") acknowledgment, immediately followed by an optional message of explanation, terminated with a <CRLF>. If the reply was positive, the selected protocol begins; otherwise the connection is closed.

Service Names

The name "HELP" is reserved. If received, the server will output a multi-line message and then close the connection. The reply to the name "HELP" must be a list of the service names of the supported services, one name per line.

The names listed in the "Protocol and Service Names" section of the current edition of "Assigned Numbers" (RFC-1010 at this time) are reserved to have exactly the definitions specified there. Services

with distinct assigned ports must be available on those ports and may optionally be available via this port service multiplexer on port 1.

Private protocols should use a service name that has a high chance of being unique. A good practice is to prefix the protocol name with the name of your organization.

Multiple versions of a protocol can suffix the service name with a protocol version number.

Implementation Notes

A negative reply will typically be returned by the port-multiplexing process when it can't find the requested service. A positive reply will typically be returned by the process invoked by the port multiplexer for the requested service.